

SPECIFICATION AMENDMENTS

The Specification is being amended herein only to add language corresponding to the drawing changes proposed hereinabove, such as deletion of the original Fig. 21 and substitution of a replacement sheet for the previously proposed Fig. 22. Marked-up and clean copies of the changes made to the Specification have been included as a part of this Office Action response, with added language being shown with ‘underline’ markings and deleted language shown with ‘strike-through’ markings. As previously discussed hereinabove, the applicants believe that no new matter has been added by the changes to the Specification proposed herein



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GROUP 3600

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4 Title: Valley Truss Uplift Resistance Strap With Wedge and Method of Use
5 Examiner: Christy M. Green
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7
8 CLEAN COPY OF SPECIFICATION – (Starting with Brief Description of the Drawings)
9
10 BRIEF DESCRIPTION OF THE DRAWINGS

11 Fig. 1 is perspective view of a first embodiment of the present invention having a planar base
12 member, a web member upwardly extending from the base member at an acute angle, a wedge
13 positioned within the acute angle, and a plurality of fastener holes through the web member and
14 the opposing ends of the base member.

15 Fig. 2 is a front view of two first embodiment uplift resistance straps attached between a
16 manufactured valley truss and two standard manufactured wood roof trusses supporting it.

17 Fig. 3 is a perspective view of the first embodiment connected between a vertically extending
18 piece of construction material with a non-beveled bottom end, and the top chord of a standard
19 manufactured wood roof truss.

20 Fig. 4 is a perspective view of the first embodiment connected between a non-beveled
21 horizontally extending bottom chord of a manufactured valley truss and the top chord of a
22 standard manufactured wood roof truss.

23 Fig. 5 is a top view of a second embodiment of the present invention in a substantially flat,
24 unfolded condition.

25 Fig. 6 is a top view of the second embodiment in a partially folded condition.

26 Fig. 7 is also a top view of the second embodiment in a partially folded condition.

27 Fig. 8 is also a top view of the second embodiment in a partially folded condition.

28 Fig. 9 is a top view of the second embodiment in a nearly complete folded condition.

29 Fig. 10 is a top view of a third embodiment of the present invention in a substantially flat,

- 1 unfolded condition.
- 2 Fig. 11 is a top view of the third embodiment in a partially folded condition.
- 3 Fig. 12 is a top view of the third embodiment in a nearly complete folded condition.
- 4 Fig. 13 is a perspective view of a fourth embodiment of the present invention in a partially folded
- 5 condition.
- 6 Fig. 14 is a perspective view of the fourth embodiment in a nearly complete folded condition.
- 7 Fig. 15 is a perspective view of the fourth embodiment in its completely folded condition ready
- 8 for use.
- 9 Fig. 16 is a top view of the fourth embodiment in a substantially flat, unfolded condition.
- 10 Fig. 17 is a perspective view of the fourth embodiment connected between a vertically extending
- 11 piece of construction material with a non-beveled bottom end, and the top chord of a standard
- 12 manufactured wood roof truss.
- 13 Fig. 18 is a perspective view of the forth embodiment connected between a non-beveled
- 14 horizontally extending bottom chord of a manufactured valley truss and the top chord of a
- 15 standard manufactured wood roof truss.
- 16 Fig. 19 is a side view of the fourth embodiment having a nail inserted through the lower portion
- 17 of the web member, the wedge, and the base member.
- 18 Fig. 20 is a perspective view of a several present invention uplift resistance straps each connected
- 19 with its wedge between the horizontally extending bottom chord of a manufactured valley truss
- 20 and the top chord of a standard manufactured wood roof truss.
- 21 Fig. 21 is a perspective view of a fifth embodiment of the present invention having a nail inserted
- 22 at an angle through its wedge.
- 23

24 DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

25 The present invention provides uplift resistance to roof construction where valleys occur,
26 an example of which is shown in Fig. 20. Fig. 20 shows the construction of what could be a

1 small porch roof connected to a larger roof structure behind it, with the nine standard roof trusses
2 18 in the larger roof structure below the four valley trusses 16 bearing perpendicular to the four
3 overlaying valley trusses 16. This overlap of roof and valley trusses, (18 and 16 respectively), to
4 fill in the roof plane, creates a valley. A girder truss 36 is shown in Fig. 20 separating the four
5 valley trusses 16 from three additional standard roof trusses 18 that extend parallel to valley
6 trusses 16. With use of the preferred embodiments of the present invention uplift resistance
7 strap, such as straps 32 in Fig. 20, the sheathing (not shown) that covers the nine standard roof
8 trusses 18 underlaying the four valley trusses 16 would not require a hole to enable connection
9 between strap and standard roof truss 18, as required by prior art uplift resistance straps having a
10 different structure and positioning. Instead, use of the present invention uplift resistance strap 32
11 would allow a two-point connection of its planar base member 6 and wedge 8 to a standard roof
12 truss 18 positioned below, and a two-point connection of its web member 10 to the valley truss
13 16 supported by its wedge 8, with all four connections being made above the roof plane. In
14 addition to uplift resistance, the present invention also provides a built-in wedge configured to
15 level the overlaying valley trusses 16, without a need for beveling the bottom chord of each
16 valley truss 16 or a need for the time-consuming on-site manufacture and installation of stand-
17 alone wedges that allow a solid connection between supported valley trusses 16 and the sloping
18 top chords of the standard roof trusses 18 beneath them. Further, the present would replace an
19 elongated prior art tie-down strap that must be attached to adjoining trusses through a hole made
20 on-site in the roof sheathing adjacent to the truss intersection. Thus, connection of the elongated
21 prior art tie-down straps is accomplished in a separate step following the step of attaching the
22 valley truss to underlying standard roof trusses. Further, installation of the elongated tie-down
23 strap typically requires two people, with one person positioned above the roof plane/sheathing to
24 connect the upper portion of the elongated tie-down strap to the valley truss 16 and another
25 person below the roof plane/sheathing to connect the lower portion of the elongated tie-down
26 strap to the standard roof truss 18, or the same person to sequentially perform the upper and

1 lower tie-down strap connections. In contrast, installation of the present invention is faster as it
2 is used directly in the connection of a valley truss 16 to each of the standard roof trusses 18
3 supporting it, so that connection, leveling, and uplift resistance requirements are all satisfied in a
4 single installation step. The present invention, already having a pre-formed wedge 8
5 incorporated therein, also eliminates a need for additional steps involving the creation and
6 connection of a stand-alone wedge or subsequent tie-down connection at each intersection of a
7 manufactured valley truss 16 to a standard manufactured wood roof truss 18. It is contemplated
8 for the present invention to be made of rigid materials and have a unitary construction. However,
9 the present invention can be made from plastic, nylon and other materials formed through
10 molded construction, or in the alternative made from a stamped piece of rigid material, preferably
11 galvanized steel, that is pre-formed into the approximate configuration shown in Fig. 1. The
12 wedge of the present invention, pre-formed at a designated angle appropriate to the slope of the
13 top chord in each of the underlying standard roof trusses 18 with which it is contemplated for
14 use, provides leveling for an overlaying valley truss 16 without the costly, labor-intensive process
15 of beveling the bottom surface of each valley truss 16, either during manufacture or on-site, or
16 the creation and connection of stand-alone wedges that are connected between the bottom chord
17 of a valley truss and the top chord of each standard roof truss 18 supporting it. The wedge 8 can
18 be solid or hollow, depending upon the materials used for its construction. Further, since holes
19 are pre-formed through the upwardly extending web member 10 and the base member 6 of the
20 present invention, an installer is not confronted with the additional time delays resulting from
21 replacement of wooden wedges that split or crack during fastener attachment.

22 Fig. 1 shows a first embodiment 2 of the present invention having a planar base member
23 with a first end 4 and a second end 6, and a web member 10 upwardly extending from second end
24 6 to form an acute angle 12 relative to first end 4. Although web member 10 appears to have
25 approximately the same length dimension as first end 4 and second end 6, web member 10 could
26 be shorter or longer than first end 4 and second end 6, with the length of web member 10 being

1 determined by the governing uplift resistance code requirement. An embodiment where second
2 end 6 is shorter than web member 10 and first end 4 has been omitted, is shown in Fig. 15. Fig. 1
3 also shows a wedge 8 positioned within acute angle 12, and connected between first end 4 and
4 web member 10. The height of the taller end of wedge 8 would vary according to different pitch
5 applications. Also, although not limited thereto, the upper surface of wedge 8, which provides
6 the seat area for an overlaying valley truss 16, would preferably have a minimum surface area of
7 approximately one-and-one-half square inches. Fig. 1 further shows two fastener holes 14 in web
8 member 10, two fastener holes 14 in second end 6, and one fastener hole 14 in first end 4. The
9 number, size, spaced-apart distance, alignment, and configuration of fastener holes 14 are not
10 critical, and at a minimum would be sufficient to meet nailing and uplift resistance requirements
11 of the local or regional building code. Fig. 1 also shows the distal ends of first end 4, second end
12 6, and web member 10, each being substantially rectangular in configuration and having
13 chamfered edges to help resist bending that could otherwise occur from uplift. In addition to the
14 configuration of corners appearing to be cut off at an approximate 45° angle, it is considered to be
15 within the scope of the present invention for the distal ends of first end 4, second end 6, and web
16 member 10, to also have the rounded configuration shown in Figs. 5-9, or other linear, arcuate, or
17 curvilinear configuration. It is contemplated that first embodiment 2 would be made from
18 molded construction, using metal, plastic, nylon, or any other material permitted by code. One
19 preferred plastic material is polycarbonate. Also, although not limited thereto and only provided
20 as an example, it is contemplated that the length dimension of first embodiment 2, from the distal
21 end of first end 4 to the distal end of second end 6, would be a minimum of approximately four
22 inches and a maximum of approximately twelve inches. The first embodiment shown in Fig. 1
23 could represent either a molded or folded uplift resistance strap. The taller end of wedge 8,
24 which is shown in Fig. 1 in a position facing second end 6, has an open configuration expected in
25 folded embodiments formed from the unfolded stamped configurations of second embodiment 24
26 and third embodiment 26, shown in Figs. 5 and 10, respectively, the vertical support for wedge 8

1 being derived from its rigid side structures. In contrast, the embodiments of the present invention
2 made through molded construction could either have a solid wedge 8, or a hollow wedge 8
3 similar to that shown in Fig. 1.

4 Fig. 2 shows first embodiment 2 attached between the bottom chord of a valley truss 16
5 and the top chord of a standard roof truss 18 supporting it, with the valley truss 16 bearing
6 perpendicular to the standard roof trusses 18. Although two first embodiment 2 attachments are
7 shown, the number of first embodiments 2 connected between valley truss 16 and standard roof
8 trusses 18 would be determined by the local building code. The upstanding web member 10 in
9 each first embodiment 2 is connected to the downwardly facing side of a supported valley truss
10 16 through fasteners (not shown) inserted through fastener holes 14, while the second end 6 of
11 each first embodiment 2 is connected to the top cord of the standard roof truss 18 supporting the
12 same valley truss 16, also via a fastener (not shown) inserted through each fastener hole 14
13 present in the planar base member of first embodiment 2, which includes second end 6 and first
14 end 4 (not visible in Fig. 2). As can be seen in Fig 4, the bottom surface 22 of the valley truss 16
15 would be supported and leveled by wedge 8. When the present invention is relied upon to
16 provide a wedge 8 for non-beveled trusses 16, one first embodiment 2 would become connected
17 at every intersection of valley truss 16 to standard roof trusses 18. As shown in Fig. 2 and
18 mentioned above, the uplift resistance straps of first embodiment 2 are only secured on the side
19 of valley truss 16 that is facing the downward sloping ends of the standard roof trusses 18
20 supporting it.

21 Fig. 3 shows first embodiment 2 connected between a vertically extending piece of
22 construction material 20, perhaps a part of a manufactured valley truss 16, with a non-beveled
23 bottom end 22, and the top chord of a standard roof truss 18. Fig. 3 shows second end 6
24 attached to the portion of standard roof truss 18 in a position downwardly extending below
25 construction material 20, and web member 10 attached to the side of construction material 20
26 that faces the downwardly extending end of standard roof truss 18 supporting it. Fig. 3 further

1 shows the non-beveled bottom end 22 of construction material 20 supported in a substantially
2 level position upon wedge 8, and first end 4 positioned against the top chord of the portion of
3 standard roof truss 18 upwardly extending beyond construction material 20.

4 Fig. 4 shows first embodiment 2 connected between a horizontally extending bottom
5 chord of a manufactured valley truss 16 and the top chord of a standard roof truss 18. As shown
6 in Fig. 4, first embodiment 2 is only secured to valley truss 16 via web member 10, and only on
7 the vertical side of valley truss 16 that is facing the downwardly extending ends of standard roof
8 trusses 18. Connection between first embodiment 2 and the top chord of a standard roof truss 18
9 is accomplished via the planar base member of first embodiment 2, which comprises second end
10 6 and first end 4. However, in some construction applications, as later seen in Figs. 19 and 21,
11 other embodiments of the present invention only are connected to the top chord of a standard
12 roof truss 18 via second end 6 and the bottommost fastener hole 14b in web member 10. In Fig.
13 4, second end 6 is placed in a position adjacent to valley truss 16 and downwardly extending
14 from valley truss 16 with fasteners inserted through fasteners holes 14 and secured between first
15 embodiment 2 and standard roof truss 18, while first end 4 is placed in a position adjacent to
16 valley truss 16 and upwardly extending therefrom, also being secured by fasteners inserted
17 through fasteners holes 14. As shown in Fig. 4, wedge 8 is positioned under the bottom chord of
18 valley truss 16. The degree of incline provided by wedge 8 can be varied during manufacture, to
19 accommodate a difference in roof pitch. Also, although not critical, Fig. 4 shows first end 4 and
20 second end 6 extending the full width of standard roof truss 18. The width and thickness
21 dimensions of first end 4, second end 6, and web member 10 can vary, so as to allow a balance
22 between the need for cost-efficient construction and compliance with the governing code
23 requirements. The relative dimensions of first end 4, second end 6, and web member 10 can also
24 vary, as can the number and positioning of fastener hole 14 therethrough. Also, although steel
25 and selected plastics, such as polycarbonate, are preferred for the manufacture of first
26 embodiment 2, other materials can be used as long as they meet the necessary strength

1 requirements to satisfy the governing uplift resistance code.

2 Figs. 5-9 show a second embodiment 24 of the present invention in an unfolded
3 condition, and various phases of folding. In Figs. 5-9 the distal perimeter of first ends 4A and
4 4B, second ends 6A and 6B, as well as web member 10 are shown to have a rounded
5 configuration. Although a blunt perimeter is favored for safety considerations to avoid injury,
6 other perimeter configurations are also considered to be within the scope of the present invention,
7 such as a rectangular configuration and the rectangle with chamfered ends shown in Figs. 10-12
8 for web 10, first side 4 and second side 6, wherein the corners of are all cut off at an approximate
9 45° angle. Fig. 5 shows second embodiment 24 in a substantially flat, unfolded condition. The
10 arrows above web member 10 show that as the second embodiment 24 takes its final form, web
11 member 10 would be moved rearwardly and away from second ends 6A and 6B. The arrows
12 adjacent to second ends 6A and 6B, show that as the second embodiment 24 takes its final form,
13 second ends 6A and 6B would each be moved forwardly and toward one another. Figs. 6, 7, and
14 8 show second embodiment 24 in a partially folded condition, with each successively higher
15 numbered illustration showing second embodiment 24 progressively closer to its usable
16 configuration, while Fig. 9 shows second embodiment 24 in a nearly complete folded condition.
17 Fig. 6 shows second ends 6A and 6B closer together than in Fig. 5, with web member 10 more
18 rearwardly positioned than in Fig. 5. Fig. 7 shows second end 6B being inwardly folded and
19 rotated approximately 180° from its original pre-folded position, with second end 6B being
20 poised for a similar 180° inwardly folded rotation. Although second end 6B is shown undergoing
21 the 180° rotation first, the order of such rotation is not critical. Fig. 8 shows both second ends 6A
22 and 6B after undergoing a near 180° rotation, but not yet aligned with one another as they would
23 be when second embodiment 24 has reached its final configuration. Fig. 10 shows second end
24 6B and first end 4B aligned with web member 10, with second end 6A and first end 4A needing
25 approximately 90° more rotation for second embodiment 24 to reach its usable configuration,
26 similar to that shown in Fig. 1. When folding is complete, wedge 8 in second embodiment 24

1 would have the same hollow configuration shown in Fig. 1. It is contemplated for second
2 embodiment 24 to be made from rigid material, such as steel, plastic, or nylon, and have a
3 substantially uniform thickness.

4 Figs. 10, 11, and 12 respectively show a third embodiment 26 of the present invention in
5 a substantially flat unfolded condition, an intermediate folded condition, and a nearly complete
6 folded condition. It is contemplated for third embodiment 26 to be made from rigid material,
7 such as steel, nylon, or plastic, and have a substantially uniform thickness. Figs. 10-12 further
8 show the planar base member having first end 4 and second end 6, and web member 10 all of
9 similar length and width dimension, each as being substantially rectangular with chamfered distal
10 ends, wherein the corners are all cut off at an approximate 45° angle. Fig. 10 shows third
11 embodiment 26 in a substantially flattened condition, prior to folding. In Fig. 11, the arrows
12 above web member 10 show that as the third embodiment 26 takes its final form, web member
13 10 would be moved rearwardly and away from wedge 8. The arrows adjacent to second end 6
14 and first end 4, show that as the third embodiment 26 takes its final form, second end 6 and first
15 end 4 would each be moved forwardly and toward one another. Fig. 12 shows that first end 4
16 and second end 6 also undergo an approximate 180° rotation relative to their original pre-folded
17 conditions, prior to the third embodiment 26 reaching its usable configuration. Either second end
18 6 or first end 4 can be folded in advance of the other, or both can be folded at once since there is
19 no overlap of one member relative to the other similar to that occurring in the folding of second
20 embodiment 24. Fig. 12 shows second end 6 and first end 4 almost aligned with one another as
21 they would be when third embodiment 26 has reached its final configuration, similar to that
22 shown in Fig. 1, with third embodiment 26 having a hollow wedge 8. The adjoining surfaces of
23 first end 4 and second end 6, which extend diagonally and form the bottom surface of wedge 8,
24 can be bonded or welded to one another during manufacture, if needed to satisfy the governing
25 code requirements.

26 Figs. 13-19 show a fourth embodiment 32 of the present invention in an unfolded

1 condition, and various phases of folding, as well as in positions of use. Figs 13 and 14 show
2 fourth embodiment 32 in partially folded conditions, while Fig. 16 shows fourth embodiment 32
3 in a substantially flat, unfolded condition and Fig. 15 shows fourth embodiment 32 in its
4 completely folded condition ready for use. Fig. 15 shows the present invention having an
5 upstanding web member 10, a hollow wedge 8 having an upper surface 28 extending forwardly
6 from web member 10, a rearwardly extending second end 6, and several fastener holes 14.
7 Second end 6 is significantly shorter than web member 10, and in fourth embodiment 32 no first
8 end 4 is present. Another difference in fourth embodiment 32 is that wedge 8 has a vertical back
9 wall containing fastener hole 14b1, instead of the laterally positioned walls shown in Fig. 1. A
10 further difference between fourth embodiment 32 and the other illustrated embodiments of the
11 present invention is that fourth embodiment 32 contains fastener holes 14b, 14c, 14b1, and 14c1,
12 which collectively allow a fastener, such as fastener 34 in Fig. 19, to be secured through wedge 8.
13 Although not limited thereto, Fig. 15 shows three fastener holes 14 through web member 10,
14 with the upper holes being offset from one another as well as from the laterally centered bottom
15 fastener holes 14. While the angle 12 between upper wedge surface 28 and web member 10 is
16 shown in Fig. 15 to be approximately 90°, the intersection between the bottom surface of wedge
17 8 and web member 10 typically represents an acute angle more pronounced than illustrated. Fig.
18 16 shows fourth embodiment 32 in its flattened, unfolded condition. Moving from left to right in
19 the illustration of unfolded fourth embodiment 32 in Fig. 16, one first encounters web member
20 10 with three fastener holes, the bottommost of which is designated by the number 14b. To the
21 right of web member 10, one next encounters rearwardly extending second end 6, with one
22 centrally positioned fastener hole 14a. The bottom surface 30 of fourth embodiment 32 is
23 situated to the right of rearwardly extending second end 6 and contains two fastener holes 14a1
24 and 14c. The upper surface of wedge 8 extends to the right of bottom surface 30 and has no
25 fastener holes 14. The remaining two sections of fourth embodiment 32 having centered
26 fastener holes 14b1 and 14c1 are unnumbered and are reinforcement members for wedge 8, the

1 one which contains fastener hole 14b1 forming a vertically extending back wall of wedge 8
2 during use. Thus, when fully formed, the structure of wedge 8 in the fourth embodiment would
3 comprise open sides, a double layer of vertical support at its taller end, a partially doubled bottom
4 surface 30, and aligned fastener holes 14b, 14b1, 14c, and 14c1 that would allow a fastener, such
5 as fastener 34 in Fig. 19 to pass through both layers at the taller end of wedge 8, exit through
6 both layers forming the bottom surface 30 of wedge 8, and enter the top chord of the standard
7 roof truss 18 upon which the fourth embodiment 32 is supported during use. To fold fourth
8 embodiment 32 into its usable configuration, the lower end of web member 10 is brought into
9 contact with bottom surface 30 so that fastener holes 14a and 14a1 become aligned to form
10 second end 6. As this occurs, rearwardly extending second end 6 becomes superimposed upon a
11 portion of bottom surface 30. In a separate step, the opposing end on fourth embodiment 32 is
12 folded to form wedge 8, with fastener hole 14b1 becoming aligned with fastener hole 14b in the
13 lower end of web member 10, and fastener hole 14c1 becoming aligned with fastener hole 14c in
14 bottom surface 30. Arrows in Figs. 13 and 14 show the directions of folding. Thus, it is
15 contemplated for four fasteners, such as fastener 34 in Fig. 19 that is configured as a nail, to be
16 used for securing fourth embodiment 32 in place during use. A first fastener 34 would extend
17 through two fastener holes, 14a and 14a1 to connect second end 6 to the downwardly extending
18 portion of the top chord of a standard roof truss 18. A second fastener 34 would extend through
19 two fastener holes, 14b and 14b1, further extend through wedge 8, and then finally through two
20 additional fastener holes, 14c1 and 14c to connect web member 10 and wedge 8 to the top chord
21 of the same standard roof truss 18. The final two nails 34 would each extend through a different
22 one of the upper fastener holes 14 in web member 10 to connect web member 10 to the vertically
23 extending side of valley truss 16 facing second end 6. Fourth embodiment 32 has the simplest
24 construction, and would produce the least material waste during manufacture. It is contemplated
25 for wedge 8 to be manufactured with varying pitch, depending upon the application, and for
26 fourth embodiment 32 to be made from rigid material, such as steel, plastic, nylon, and have a

1 substantially uniform thickness. As an alternative to folded construction, a molded embodiment
2 similar to that shown in Figs. 15 and 19 is also considered to be within the scope of the present
3 invention, and which would preferably have a solid wedge 8, as well as a fastener hole 14
4 through wedge 8 in a similar position to that shown for fastener 34 in Fig. 19. Although not
• 5 limited thereto, such a molded embodiment could be made from plastic material, such as
• 6 polycarbonate. Fig. 17 shows fourth embodiment 32 connected between a vertically extending
7 piece of construction material 20 with a non-beveled bottom end 22, and the top chord of a
8 standard manufactured wood roof truss 18, while Fig. 18 shows forth embodiment 32 connected
9 between a non-beveled horizontally extending bottom chord of a manufactured valley truss 16
10 and the top chord of a standard manufactured wood roof truss 18. Although the upper surface 28
11 of wedge 8 is not marked in Fig. 17 or Fig. 18 for clarity of illustration, both Figs 17 and 18 show
12 upper wedge surface 28 positioned entirely under the superimposed construction material,
13 vertically extending piece of construction material 20 or manufactured valley truss 16,
14 respectively. Fig. 20 shows several present invention uplift resistance straps, such as fourth
15 embodiments 32, each connected between the horizontally extending bottom chord of a
16 manufactured valley truss 16 and the top chord of a standard roof truss 18. In the center of Fig.
17 20, one can see four valley trusses 16 supported by varying numbers of fourth embodiments 32,
18 determined according to length and supported upon standard roof trusses 18 bearing
19 perpendicular thereto. In the lower right portion of Fig. 20, three standard roof trusses 18, this
20 time parallel to the four valley trusses 16, are separated from the valley trusses by a girder truss
21 36. As shown in Fig. 20, the web members 10 of fourth embodiments 32 are only secured on the
22 vertically extending side of valley trusses 16 facing the downwardly extending ends of standard
23 roof trusses 18. It is contemplated that the web members 10 of the second embodiments 24, the
24 third embodiments 26, and the first embodiments 2 would also be connected to the sides of
25 valley trusses 16 the downwardly extending ends of standard roof trusses 18, with the
26 bottommost fastener hole 14b of fourth embodiments 32 being used with a fastener 34 that

1 extends into the top chord of a supporting standard roof truss 18 and thereby connects web
2 member 10 and wedge 8 to the supporting standard roof truss 18. The two top fastener holes 14
3 are used to secure web 10 to a vertically extending surface of valley truss 16, while the valley
4 truss is levelly supported upon the top surface 28 of wedge 8, the slant of the bottom surface 30
5 of fourth embodiment 32, as determined by angle 12, complements the incline of the standard
6 roof trusses 18 to place top surface 28 in a substantially horizontally extending orientation.

7 Fig. 21 shows a fifth preferred embodiment of the present invention, similar in
8 configuration to that shown in Fig. 15 and having a molded construction. Fig. 21 is different
9 from the fourth embodiment shown in Fig. 15 and 19 only in that the middle fastener hole 14 in
10 Fig. 15 is not aligned with the top and bottom fastener holes 14 on web 10, and the fastener hole
11 14 through the bottom of wedge 8 is visible in Fig. 15, and not Fig. 21. The fourth embodiment
12 32 shown in Fig. 21 also has a second end 6 and web 10 having a greater thickness dimension
13 than that shown in Fig. 15, none of which are critical differences. Figs. 21 and 19 both show a
14 fastener 34 extending into the rear surface of web 10, through wedge 8, and beyond the bottom
15 surface 30 of wedge 8. Angle 12 varies according to the pitch established for the roof
16 construction formed by the standard roof trusses 18 supporting valley trusses 16, so that the
17 bottom surfaces 22 of the valley trusses 16 are always supported by top surface 28 in a level
18 orientation.

19